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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/672,505

09/26/2003

James B. Ticken

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27879

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01/05/2005

INDIANAPOLIS OFFICE 27879
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EXAMINER

EINSMANN, MARGARET V

ART UNIT

PAPER NUMBER

1751

DATE MAILED: 01/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/672,505

Applicant(s)

TIEKEN, JAMES B.

Examiner

Margaret Einsmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The rejection of Claims 1,6,11 and 16 under 35 U.S.C. 112, first paragraph, has been mooted by applicant's amendments

The rejection of claims 1,6,11 and 16 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been mooted by applicant's amendment.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The rejection of claims 6-10 and 16-20 under 35 U.S.C. 103(a) as being unpatentable over Rhodia Limited, GB 2,327,427 (US equivalent is 6,428,720) in view of Matsushita Electric Industrial Co., Inc., EP 539,952 is withdrawn due to applicant's remarks and declaration. This rejection is deemed less relevant and cumulative to the other rejections of record.

Claims 6-10 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pearson, US 5,688,432

Pearson discloses a composition comprising (i) pentafluoroethane, (ii) tetrafluoroethane and (iii) a hydrocarbon selected from isobutane, propane and mixtures thereof. See Col 1 lines 45-49. When the mixture of isobutane and propane is used, the composition contains all of applicant's claimed components. Pearson teaches that there is 0.5 to 60% of pentafluoroethane (R125), 30-98% tetrafluoroethane (R-134a) and 1-11 percent hydrocarbon in the disclosed compositions, which includes the compositions as claimed. See column 2 lines 19-48. The reference differs from the claims only in that there is no working example of a composition using the combination of isobutane with propane. It would have been obvious to the skilled artisan to use the combination as disclosed because it is clearly disclosed in column one, and all disclosures of a reference are valid. A reference is not limited to its preferred embodiments.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Singh et al., US 6,526,764 B1. Singh et al. disclose compositions for refrigeration comprising the claimed R125, R134a and R-32 combined with hydrocarbon components as claimed. Singh uses the commercially available mixtures listed in Table III in column 5 (which are applicant's claimed (a), (b) and (c) components in claim 1 and components (a) and (b) in claim 6), and mixes said commercially available refrigerant mixtures with hydrocarbon solubilizing agents as claimed. Mixtures 407A, 407B, 407C

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and 407D are mixtures containing R125, R134a and R32. 407B contains the above components (R125, R134a and R32) in the amounts as claimed in the four independent claims of this application; see col 5 line 44. Also Mixture 2 on Table IV reads on the claimed refrigerant mixtures. All of the claimed hydrocarbons listed in (d) of claim 1 or in (c) of claim 6 are listed as the solubilizing agents in Table II bridging columns 4 and 5. Singh et al. state in column 3 lines 23-50 that any one of the solubilizing agents in Table II **or mixtures thereof** are mixed with said refrigerants (or the known refrigerant mixtures as listed in Table III) in an amount of 0.1 to 20 weight percent of solubilizing agent or mixture thereof. Note that Table II lists, methane, ethane, propane, butane, isobutene and pentane (col 4 lines 56-60) and propylene in col 5 line 23. All are claimed herein. Note that Singh's claims 1-4 read on the instant claims.

The reference differs from the claims only in that there is no working example of a composition using the combinations as claimed. It would have been obvious to the skilled artisan to use the combinations as disclosed because Singh clearly discloses using the mixture of a-d as claimed in claim 1 and a-c as claimed in claim 6 and using said mixtures in refrigeration applications, and all disclosures of a reference are valid. A reference is not limited to its preferred embodiments.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feiring et al., US 6,299,792 B1. Feiring et al. disclose compositions of refrigerants mixed with up to 10% of at least one C₃ to C₅ hydrocarbon. In column 3 he discloses a

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list of useable refrigerants including the commercially available R-407B, which is a mixture of R-32/R-125/R-134a (10/70/20) as claimed. When R-407B is mixed with the mixture of C3-C5 hydrocarbons Feiring discloses in col 4 lines 1-5, applicant's claimed compositions are included. See Singh col 5 line 43 for the composition of R-407B. The reference differs from the claims only in that there is no working example of a composition using the combination of R-407B with the two claimed hydrocarbons. It would have been obvious to the skilled artisan to use the combination as disclosed because Feiring teaches that one mixes R-407B with a mixture of hydrocarbons to form a composition useful as a refrigerant, and all disclosures of a reference are valid. A reference is not limited to its preferred embodiments.

Response to Amendment

The Declaration under 37 CFR 1.132 filed 10/22/04 is insufficient to overcome the rejection of the claims based upon Pearson, Feiring and Singh et al. as set forth in the last Office action because:

1. The declaration is not commensurate in scope with the claims. It compares a very specific composition comprising 60% R-125, 37% R-134a and 1.5% of propane and 1.5% isobutane with a composition comprising the same two hydrofluorocarbon components containing either propane or isobutane in an amount of 3%. All of the claims are in "comprising" language, and they contain multiple hydrocarbon components as well as broad ranges of the hydrofluorocarbon components. A direct comparison with the compositions of the reference is required. Said comparison must

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be commensurate in scope with the claims. One exemplification of the claimed composition will not overcome the rejection. Applicant is directed to M.P.E.P716.02 (d) and (e) for the requirements of comparisons which will overcome a prima facie case of obviousness. Objective evidence of unobvious results must be commensurate in scope with the claims. *In re Prater*, 162 USPQ 541; *In re Tiffin*, 172 USPQ 292; *In re Linder*, 172 USPQ 356; *In re Greenfield*, 197 USPQ 227

Where unobvious results are relied upon as a basis for patentability, a proper comparative showing is a minimum requirement. *In re Eisenhut*, 114 USPQ 287

2. Regarding claims 1-5 and 11-15 they are farther removed from the compositions in the declaration since they claim compositions comprising **three** hydrofluorocarbon components and hydrocarbon components selected from several. There are only **two** hydrofluorocarbon components in the compositions of the declaration. Both Feiring and Singh disclose the well known blends comprising the three hydrofluorocarbon refrigerants in the ranges claimed.

3. None of the prior art compositions were compared.

4. There is no probative value in the comparisons. The data cannot be extrapolated to define a trend in the claimed compositions. There is one and only one inventive composition compared. The specific inventive composition in the comparison is not even claimed. The three references used in the rejections above disclose mixtures of hydrocarbons with the two hydrofluorocarbons (Pearson) or the three hydrofluorocarbon blend.

Regarding applicant's arguments regarding flammability in the declaration, it is well known that refrigerant compositions must meet critical flammability standards. See Singh et al. example 1 columns 7-8. The very fact that hydrocarbons are flammable and that the amount of hydrocarbon in a refrigerant composition must be limited to the amount that does not adversely affect the flammability of the refrigerant composition is well known. Applicant's states that the hydrocarbon component must be limited to below 2% of each of isobutane and propane. This statement is not commensurate in scope with the claimed subject matter.

Regarding applicant's arguments in the remarks, applicant states that neither Feiring and Singh, recognizes that the refrigerant compositions can become flammable after leakout. Applicant is certainly aware that every refrigeration engineer knows that that is the case, and applicants for patent do not need to state that which is common knowledge. Applicant knows that for a refrigerant to be commercially acceptable it must have the highest flammability rating, and that those ratings include leakout values. Note applicant's previous patent 6,274,062 B1 column 2 lines 33-43. Applicant has provided data during the prosecution of that patent which demonstrates that flammability before and after leakout is of prime concern to refrigeration engineers.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret Einsmann whose telephone number is 571-272-1314. The examiner can normally be reached on 7:00 AM -4:30 PM M-W and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

12/27/04


Margaret Einsmann
Primary Examiner
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